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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,091	11/25/2003	Jagdish Shah	60.1528	7165

7590

09/06/2005

Intellectual Property Law Department
Schlumberger-Doll Research
36 Old Quarry Rd.
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EXAMINER

PAUMEN, GARY F

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,091

Applicant(s)

SHAH, JAGDISH

Examiner

Gary F. Paumen

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/25/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14-24, 26-31, 33, 35-42, 44, 45, 48, 49, 52-58, 60-63, 65-70, 72, 73, 75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continuation of Disposition of Claims: Claims pending in the application are 1-6,8-12,14-24,26-31,33,35-42,44,45,48,49,52-58,60-63,65-70,72,73 and 75.

This application has been withdrawn from issue. Following is an action on the merits.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 8, 9-12, 14, 20-23, 26-31, 33, 35-42, 44, 45, 48, 49, 52-58, 60-63, 67, 69, 70, 73 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Background of the Invention and Figure 1) in view of Nakahigashi et al 6023025.

The admitted prior art shows the invention substantially as claimed – an electrical feedthru apparatus comprising six electrically conductive transmission line 8, and a housing 6 attached about at least a portion of the transmission line. However, the admitted prior art does not disclose a diamond like micro-coating over the transmission lines, nor the pin (transmission line) density. Nakahigashi et al teaches it is known to micro-coat an electric conductor with DLC. It thus would have been obvious to micro-coat the transmission lines (or the holes containing the transmission lines) of the admitted prior art with DLC as taught by Nakahigashi et al so as to minimize wear by friction. To form the coating of two or more layers of various thicknesses, and to form the pins (transmission lines) of a small enough diameter to meet the claimed pin density, would have been an obvious matter of routine experimentation. To form the pins (transmission lines) of a small diameter would have been obvious, since

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downsizing of contacts and electronics in general is an industry-wide practice, to conserve space.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nakahigashi et al as applied to claim 2 above, and further in view of Wang et al 6375826.

The admitted prior art as modified by Nakahigashi et al substantially discloses the claimed invention except for the transmission lines being electro-polished. Wang et al discloses electro-polished conductors, and to electro-polish the transmission lines of the admitted prior art thus would have been obvious, for better electrical contact with mating terminals.

Claims 15-17, 65 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nakahigashi et al as applied to claim 1 above, and further in view of Honkomp et al 6362424.

The admitted prior art as modified by Nakahigashi et al substantially discloses the claimed invention except for dielectric adhesive. Honkomp et al discloses dielectric adhesive 30, and to provide the admitted prior art with dielectric adhesive thus would have been obvious, to better secure the transmission lines to the housing. The particular type of adhesive used would have been obvious depending on availability and price.

Claims 18 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nakahigashi et al and Honkomp et al as applied to claim 15 above, and further in view of Panek 3998515.

The admitted prior art in view of Nakahigashi et al substantially discloses the claimed invention except for brazing. Panek discloses brazing to the contacts, and to braze the admitted prior art transmission lines to the housing thus would have been obvious, for a better hermetic seal.

Claims 19 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nakahigashi et al as applied to claim 1 above, and further in view of Miller 4252394.

The admitted prior art in view of Nakahigashi et al substantially discloses the claimed invention except for mating tapered surfaces between the housing and transmission lines. Miller discloses mating tapered surfaces between the housing and pin 32 (see Figure 3), and to form the transmission lines of the admitted prior art with tapers thus would have been obvious, for better sealing to the housing.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Nakahigashi et al as applied to claim 1 above, and further in view of either Chao et al 6739946 or Cheng et al 6517405.

The admitted prior art as modified by Nakahigashi et al substantially discloses the claimed invention except for the DLC being applied by MPCVD. Chao et al and Cheng et al each disclose a diamond coating deposited by MPCVD, and to deposit the DLC of the admitted prior art (as modified by Nakahigashi et al and Honkomp et al) in this way thus would have been obvious, to assure coating quality.

Applicant's arguments filed August 25, 2005 have been fully considered but they are not persuasive. Most of the claims do not recite MEMS. Nakahigashi et al is

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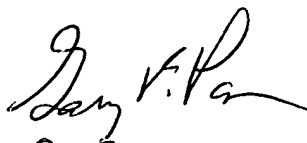
deemed to be analogous art since it deals with micro-coating an electrical conductor with DLC. The admitted prior art (page 1) does disclose two distinct environments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary F. Paumen whose telephone number is 571-272-2013. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on 571-272-2800, ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gfp


Gary Paumen
Primary Examiner